Remarks

The initial Office Action dated May 7, 2004, has been carefully considered. The specification has been reviewed, and the amendments offered to the specification are believed to remove any error or inconsistent usage with respect to the reference numerals. The amendments to the specification clarify the nomenclature for Applicant's load cell identified by reference numeral 70 in the drawings. The specification as filed made it clear that the load cell shown in the drawings takes the form of a planar beam sensor, so that the phrases "load cell" and "planar beam sensor" refer to the same element, planar beam sensor being a more specific terminology for the load cell shown. To make the specification consistent with respect to the use of the reference numeral, the foregoing amendment always uses the reference numeral 70 adjacent to the generic name of the element, "load cell". In addition, the specification is amended to ensure that element 110 is called "temperature probe string" in all occurrences. The typographical error in setting forth that element as 100 rather than 110 (page 11, line 2), is also corrected.

The Action found the subject matter of dependent Claim 6 to be allowable. Accordingly, Claim 1 has been amended to incorporate the limitations of Claim 6. Thus, Claim 1 as amended and its remaining dependent claims (2-5), define subject matter deemed by the Examiner to be allowable. Claim 6 is canceled.

The remaining matter is the patentability of amended Claim 7 and its dependent claims (8 and newly added 9-11).

Applicant believes that independent Claim 7 as amended and its dependent claims 8-11 define patentable subject matter which is not anticipated or rendered obvious by the Legendre reference or the other references cited. Applicant, by a novel and unobvious design of a segmented probe with coupling means, has created for the first time a displacement probe which may be readily installed in a tank to extend to the bottom of the tank even when there is not as much vertical clearance above the tank as the tank depth, and even where the height of the tank is so great that

a probe of the required length would be difficult to handle during installation. This is done by a design which permits the probe to be inserted into the tank one segment at a time, with *in situ* coupling of each new segment after its next lower segment extends into the tank. Applicant achieves this unanticipated result by coupling means which do not require rotation of any part of the probe, as the probe is extended into the tank. Each segment, in turn, may be supported by a screwdriver or the like extended into its upper apertures and resting atop the tank on the port riser while the next higher segment is secured to it by a joining collar. The joining collars, in addition to being readily installed, permit weight adjustment of the probe (specification page 15, lines 6-14). They also permit the novel placement of the temperature probe string extending through the probe itself.

Legendre does not suggest a displacement probe which may be assembled during insertion into the tank at installation. It is true that Legendre shows a probe having three segments joined by threaded attachment in order that the probe be "capable of length adjustment" (column 3, line 10). However, he makes no suggestion of a function or structure which is readily capable of assembly while the probe is being placed in the tank. It is clear that, while Legendre chooses to allow for probes of varying length by prefabricating individual threaded segments, once the probe length is chosen, his probe would be pre-assembled before any part of the probe is inserted into the tank. Aside from the fact that neither Legendre nor any other reference suggest such an assembly *in situ* while the probe is introduced into the tank one segment at a time and then coupled to the next higher segment, the structure of Legendre renders any procedure but pre-mounting assembly of its probe impractical, and probably impossible. The installer would have to hold the top of the already inserted probe segment(s) with one hand while raising the next segment into position, aligning the threads with the adjoining segment, and then rotating it into engagement. Such manipulation atop a tank would not seem possible in any case, and certainly not for the very high tanks to which Applicant's invention is particularly suited. There surely is no structure or teaching to accomplish the result achieved by Applicant.

Claim 7 requires the presence of coupling means for securing adjacent segments of the probe together during insertion of the probe into the tank without requiring rotation of any part of the probe. This structure is not in any way suggested by the references. Claim 8 adds the arrangement of the temperature probe string extending through the hollow central bore defined by the probe, also not disclosed in the references. Claims 9 and 10 require that the coupling means comprise a joining collar surrounding the ends of each adjacent probe segment, with at least one fastener securing the collar and segments. Claim 11 adds the further limitation of aperture means formed on the upper end of each segment to permit support of the segment already extending into the tank while the next segment is couple thereto.

None of these limitations found in amended Claim 7, or its dependent claims 8-11, is suggested by the art. Accordingly, allowance of Claims 7-11 is requested. Applicant has invented a novel and unobvious structure to achieve a result totally unappreciated in the art. The art does not suggest in any way Applicant's structure which enables a probe to be sequentially inserted into the tank, segment-by-segment, with ready coupling of each new segment after the next lower segment is inserted into the tank. With the entry of the foregoing amendments and remarks, it is believed that the case and its pending Claims 1-5 and 7-11, are in condition for allowance.

Respectfully submitted,

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Date of Deposit: July 26, 2004

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